

REMARKS

Applicant has cancelled the non-elected claims. This cancellation is without prejudice, and Applicant reserves the right to file a further application covering the subject matter of the cancelled claims.

Applicant has amended the pending independent claims, namely Claims 7, 10, and 14. Applicant submits that the amended claims define patentably over the prior art, for the reasons explained below.

It has been known to make a catalytic combustor from a stack of flat strips alternating with corrugated strips. Each corrugation, in combination with an adjacent portion of a flat strip, defines a channel for gas flow. Thus, in a combustor of this type, the path for gas flow must be generally parallel to the corrugations.

In the most basic form of the present invention, some of the strips are offset, relative to other strips, in a direction generally parallel to the flow of gas through the combustor. The result is a structure having end faces in which the strips do not terminate at the same location, i.e. where the ends of the strips are not flush with each other. Instead, some of the strips are recessed relative to the others. If the recessed strips alternate with non-recessed strips, the spacing between the non-recessed ends of the strips is effectively double the nominal spacing between each flat strip and the adjacent corrugated strip. The result is a structure having ample space for insertion of a tweezer welder, at the end face, for purposes of welding pieces of the combustor together.

In short, the present invention makes it feasible to form a combustor

having a very high cell density, while still allowing the use of a conventional tweezer welder to weld the pieces together. A tweezer welder would normally be unusable with a high-density combustor, because it would not fit within the tiny cells.

It is an important feature of the invention that the strips are offset in a direction generally parallel to the direction of fluid flow. This feature insures that the offsets occur at the end faces of the stack, which is where it is necessary to perform the welding.

The direction of the displacement of the strips is clear from the drawings of the present application, as well as from the text. For example, Figures 3a and 3b show welds in the vicinity of the "inlet and outlet faces" (see the specification, page 10, lines 3-4), which implies that gas flows from left to right (or right to left) in the drawing. Thus, the strips in Figures 3a and 3b are clearly displaced in the direction of gas flow. That the gas flow is parallel to the corrugations is also apparent from page 11, line 22, where the specification explains, with respect to the end view of Figure 6a, that the direction of flow is perpendicular to the paper.

None of the references cited by the Examiner has the structure described above. The patent to Brück shows, in Figures 4-7, a plurality of strips which are offset relative to other strips, but the direction of the offset is not parallel to the direction of gas flow, as is the case with the present invention. In Figures 4-7 of Brück, the direction of fluid flow is clearly perpendicular to the paper. There is no teaching or suggestion, in Brück, that the strips should be offset in a direction perpendicular to the paper, i.e. in the direction of gas flow.

The patent to Retallick is also not relevant to the present claimed invention. The Examiner relies on the offsets shown in Figure 3 of

Retallick, but the offsets are lateral, not perpendicular to the paper. The direction of gas flow, in Figure 3 of Retallick, is clearly perpendicular to the paper. The reference does not suggest an offset or displacement in the direction of gas flow.

The patent to Okamoto has the same deficiency. The Examiner points to the offsets shown in Figure 6, but all of these offsets are from left to right or from right to left. The direction of gas flow is clearly perpendicular to the paper. Okamoto does not show offsets in the direction of gas flow.

Applicant has amended the claims to emphasize the features discussed above. Specifically, Claim 7 now recites that the stack of flat and corrugated strips defines a direction of fluid flow along the corrugations, and that the flat strip of each pair is offset in a direction generally parallel to the direction of fluid flow. The claim also recites the offset of pairs of strips towards the end face of the stack, as shown in Figures 3a and 3b of the present application. Claims 10 and 14 have been amended in a similar manner. Claim 14 has also been amended to overcome the formal objection.

Applicant submits that Claims 7, 10, and 14 define patentably over all of the references. The pending claims require that certain strips be offset, or displaced, in a direction generally parallel to the direction of fluid flow. All three of the references applied by the Examiner show offsets in a direction perpendicular to the direction of fluid flow. Therefore, none of the cited references teaches or suggests an end face in which alternate strips are recessed. Nor can the structures shown in the cited references provide the technical advantages of the present claimed invention.

Applicant submits that Claims 7, 10, and 14 are allowable. The remaining claims, not discussed above, are believed allowable, as they add limitations to an allowable claim.

For the reasons given above, Applicant submits that the claims, as amended, define a patentable invention. Applicant requests reconsideration by the Examiner and early favorable action.